WHIRRAKEE

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MONTHLY NEWSLETTER OF THE BENDIGO FIELD NATURALISTS CLUB

Bendigo Field Naturalists Club Inc.
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Membership of the Bendigo Field Naturalists Club is open to all those interested in Natural History. The subscription rates are: Single $40; Family $50; Concession: Single $35; Family $40. *Whirrakee* subscription only is $40.

General meetings are held on the second Wednesday of each month. The venue for General meetings is the Golden Square Senior Citizens Building, Old High Street, Golden Square. The meeting starts with a 10 minute thing-of-the night natural history segment. The invited speaker starts at 8:00pm and meetings conclude with supper. The Annual Meeting is held in September.

Committee meetings are held on the third Wednesday of each month at 5:30pm. Members of the Committee are the Office Bearer listed above and the following members: Anne Bridley, Kerrie Norris, John Lindner, Jenny Shield, Diana Collier, Devi Shanty

Excursions are conducted regularly and are advertised on the diary page of the *Whirrakee*. The assembly point for excursions is the Golden Square Senior Citizens Building, unless otherwise specified. Several interclub field naturalist campouts are held every year.

The Bendigo Field Naturalists Club is actively involved in local conservation issues. An **indigenous garden** has been established around the Golden Square Senior Citizens Building. Working bees are advertised on the *Whirrakee* diary page.

Bird Observing: Club members conduct regular bird surveys. Please contact Anne Bridley 5442 6188 or Glenise Moors 5439 6254 for details. Special bird observations should be reported to Anne Bridley 5442 6188. To propose bird observing excursions please contact Kerrie Norris 5447 8017.

Front cover photo?...see page 2

WHIRRAKEE

Monthly Newsletter of the Bendigo Field Naturalist Club

Vol. 35, No. 2, March 2014

Whirrakee takes its name from the Whirrakee Wattle (*Acacia williamsonii*), which is virtually endemic to the Bendigo region

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Authors are responsible for the accuracy of the information they use and also for any opinions expressed in their articles. Contributions should be posted or e-mailed to the editor at least two days prior to the last Wednesday of the month. They will be included as soon as possible after they are received, although space restrictions occasionally require shortening of articles or holding them over till the following edition of *Whirrakee*.

Articles in *Whirrakee* may be reproduced, but permission should be obtained from the Bendigo Field Naturalists Club, and acknowledgment should be given to the author and the Club. Some back issues are still available on request.

Editor's Note

It's nearly autumn and this means great walking weather for Bendigo. Not much is visible in the bush above ground (although Rod Orr and other BFNC elders will probably know of many things in flower!), but we know that much is happening underground, even though the country is so dry. If we get some good rains, the effect of this underground activity will show soon. The BFNC year has started well with a great attendance at the first general meeting. The audience was rewarded with a fascinating talk by Andrew Skeoch (see pages 6 and 9). On page 3, our president, Richard Goonan, has outlined ways of how you can get involved, by the sharing of observations, or by getting your hands dirty and working in the garden. Let's get to work and sustain this level of interest & activity

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Front page photographer: Bruce Johnson

Apologies for putting myself on the front cover of this month's edition, but the other photos submitted this month did not lend themselves to a black-and-white version. The oversized Thorny Devil and I are standing in the newly developed 'Central Australia' section of the Canberra Botanic Gardens. This new section is far from finished, but visitors can clearly see that it will be a very wonderful addition to those already beautiful Gardens. There are some more photos on page 7.

Short Notices

Photo Request

The Bendigo Field Naturalists Club has a new website, so make sure you have a look! To make the site attractive we need your photos to add throughout the different pages. Photos can be of wildflowers, birds, landscapes, insects etc, or perhaps you have a good photo from a club excursion. Old or new, please let us know if you have something to share to help promote the club. Photos can be collected at monthly meetings if you bring them along on a memory stick or CD, if you need further information email richard.goonan@optusnet.com.au or info@bendigofieldnaturalists.asn.au

General Meeting Format: Observations in focus!

To encourage a greater emphasis on observations and the sharing of our local knowledge, general meetings have been restructured. Meetings will now begin with time for sharing observations. This will include a brief look at the **BFNC Bowerbird project** (http://www.bowerbird.org.au/), noting observations submitted through the **BFNC website** or **hardcopy record sheet**, and allowing opportunity for the audience to **report observations directly**. If you don't use the Bowerbird page or the club's observation page on our website, please **write your observations down** and bring them along. Also, remember, if you're not comfortable speaking in front of a group, your notes can be read by someone else! So don't be shy – field naturalists are all about recording and sharing observations such as things you've seen, places you have been, and especially what's happening in your favourite local patch.

Email Notifications

If you wish to be advised promptly of interesting sightings, events or other special communications you can subscribe to our club's email notifications service. Subscribers to the service who make an un-usual or interesting sighting in our region can email all other members of the service.

Email **subscribe** in the subject line to info@bendigofieldnaturalists.asn.au if you wish to join the service. Include your full name in the body of the email.

To be added to the list you must first send an email to the address provided. This is the easiest way to manage the system.

BFNC Garden Working-bee

Come and join in our **Autumn working-bee at the BFNC garden** (senior citizens hall in Golden Square) on

Sunday March 30th from 9 am to 1 pm.

The theme of the Autumn working-bee is cleaning up the dead shrubs, pruning some of the large shrubs, and preparing for our winter working-bee when we will be replanting. Please bring your gloves, hat, boots, and favourite pair of trusty secateurs or pruning saw. For further information email richard.goonan@optusnet.com.au or info@bendigofieldnaturalists.asn.au

Summer Visitors (see opposite page)

Like most families we have received a number of visitors during the past few weeks. A number of large moths visited over several evening, no doubt attracted to our back veranda by the lights from the family room. Several large brown moths with 'eyes" on their wings have been regular visitors - as children we called them emperor gum moths. Another coming inside, nestled between the fold of our laundry, was a greyish moth with a heavy covering near to the head. A search online suggests it maybe a member of the Hawk Moth family (top left photo).

A dead Lace wing was on the paving, under the clothes line (see middle photo). My online search didn't help me with identification but it allowed me to realise that I have seen a number of the egg formations in our garden in previous years. Also fascinating was information about their larval phase - the carnivorous ant-lion.... continued on pg. 3 & 8

Summer visitors in the backyard…text and photos by Dale Little – February 2014

Top right: A small , bright green insect with enormous (for its size) back legs was nestled amongst our bean plants. Again I found it difficult to accurately identify it but it may have been some sort of leaf hopper.

Top left: Hawk Moth

Left: Lacewing

Below right: An unusual visitor for us has been what, I think, is a marbled gecko (*Christinum marmoratus*). This gecko has been sighted several times, late at night, licking the leaves of the Banksia rose that frames our back steps. One night a second reptile was sighted briefly as it ran across the wall and under the roof flushing.

Below left: This striking beetle flew into my kitchen one night. After photographing it, I let it go and found it in the same spot the next morning. After giving it two such chances to make its own way, I put it in the freezer for future sessions with school children (*editor*)

An interesting spider from Sedgwick (36°53'23"S, 144°17'18"E.)

Photographs and text by Jenny Shield

Cyrtophora parnasia sometimes called the Russian tent spider because of its similarity to a Russian spider, but it is an Australian spider, and occurs throughout Australia. So it needs a common name. Glenise Moors invited me to her house to look at the spider, and gave her permission for me to collect it so I could try to identify it. Fortunately it is well known and photos of it are on the internet. Searching the web reminded me of *Cyrtophora moluccensis*, a larger spider, which is very common in Brisbane and builds similar but much larger webs.

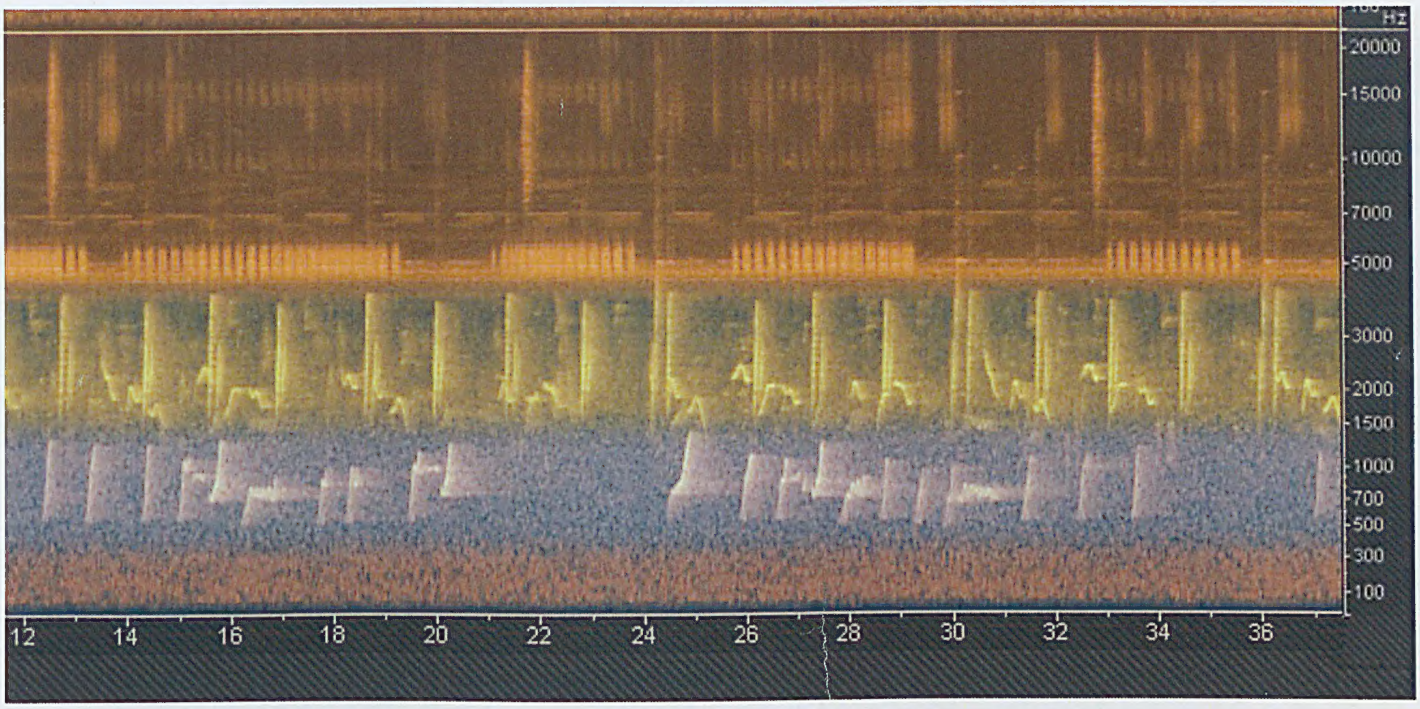
The web was basically a closely woven horizontal orb about 25 cm across that was held in place by numerous vertical stays and is pulled up in the middle to form a tent. The egg sac, which is disguised by plant parts is at the tip of the tent, and the female sits next to it in a small retreat at the top of the tent. Insects that get caught in the mass of stays fall on to the orb platform, and the spider collects them from underneath.

Top left: The web, hanging like a sheet over the vegetation

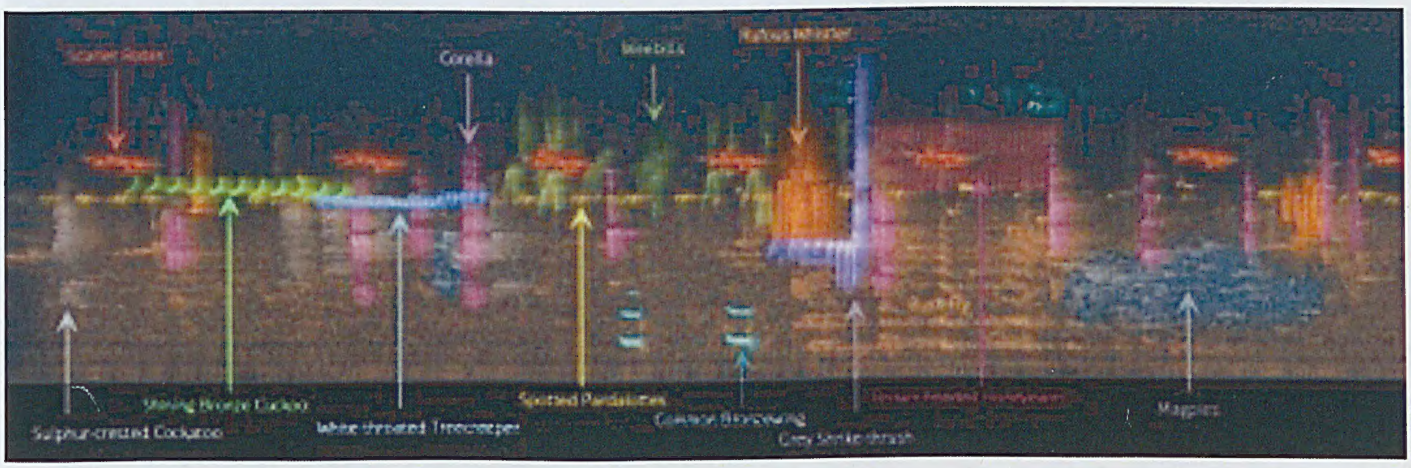
Top right: Ventral view of the female spider The black patches around the spinnerets are characteristic of this species. The female abdomen extends posteriorly and the point is bilobed.

Bottom left: The female clings to her egg sac that I thoughtlessly broke in collecting the spider.

Bottom right: The dorsal view shows the general shape of the spider, but she prefers to hang underside up.

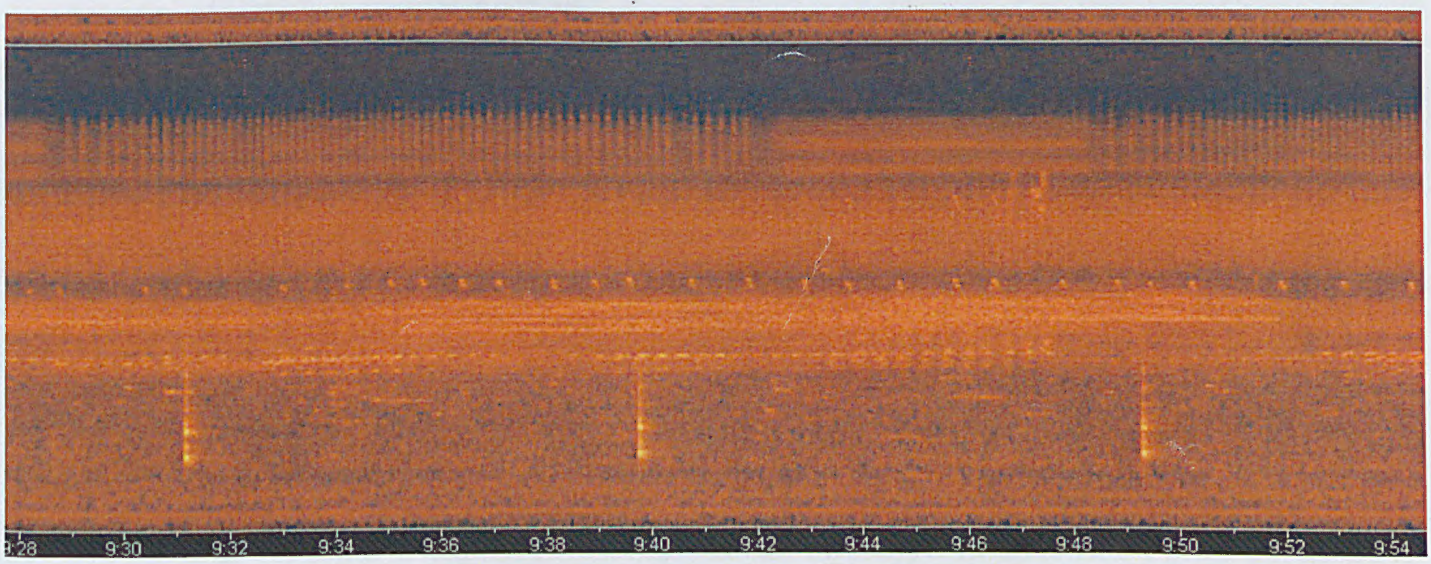


Sonogram from the Khao Sok Thai rainforest, showing differentiation across classes; mammals (blue), birds (yellow) and insects (orange). (produced by Andrew Skeoch, see article on page 9). The horizontal axis is time (seconds) and the vertical axis is frequency (Hz)



Above: Sonogram of our local spring birdsong, showing individual species. If there were a scale on the vertical axis it would show that species clump at 3000 Hz. (produced by Andrew Skeoch)

Below: Another of Andrew's sonograms, picturing the song of three species of cicadas, with songbirds singing in the 'vacant' window (again at around 3000 Hz), see page 9 for article.



Canberra Botanic Gardens
(the new 'Central Australia' section),
New Year's Eve 2013.
This part will look fantastic in a few years time. (photographs by Sabine Wilkens)

Summer visitors ...continued from pg. 3 & 4
We have also been visited, briefly, by a family of blue wrens. Last season we saw them regularly as they successfully nested in the garden next door. It would be lovely if they stayed within this area for a longer time. Another evening, a group of Indian Mynas moved on very quickly when a sparrow hawk flew across our yard. Less welcome and quickly despatched was a white tailed spider that joined me as I sat down to do some embroidery, one afternoon.
Following these sightings, much time is spent scrolling through various online sites to assist with identification. We often find we do not collect enough information about the creatures seen or, when we find a likely match, cannot find enough information regarding their distribution across southern Victoria. However all this finding and searching is most satisfying, even if we are sometimes unsure of what we are seeing.

Reg Smart – a personal reminiscence

written by Bob Seviour
shortly after Reg turned 100
(Formerly at Latrobe University, Bendigo. Now Emeritus Professor, Latrobe University, Melbourne and Conjoint Professor, University of Newcastle)

I first met Reg Smart in 1975. I had just been appointed as a lecturer at the then Bendigo Institute of Technology to develop and run a degree level course in Microbiology as a major strand in a multi-disciplinary course. I wanted to take my third year students on a "fungal foray" as part of a unit in Microbial Systematics and Ecology, and was looking for advice on who might know the best places to go. Peter Ellis, then a technician in the department, suggested I contact Reg, a member of the Bendigo Field Naturalists, who Peter claimed had a special interest in local mushrooms and toadstools, and knew where the best diversity was to be found.

That was the start of a long-lasting relationship, where for nearly 20 years, Reg and I, together with Laurie Pethica, who was another BIT lecturer, would spend 2-3 days exploring the local bush, from Daylesford to the Bullarto forest, in late May-June each year. Reg, who was very fit and agile for someone his age, thought that being Poms, we were a couple of wimps, not used to this sort of intense outside activity That was until one day we went out to Bullarto in a heavy frost. We wisely stayed in the car while Reg made a dash towards a magnificent display of *Amanita muscaria* for a few hundred pictures in their natural habitat as the ectomycorrhizal fungi of pine trees. He was dark blue when he returned, and we could hear his false teeth clattering for the rest of the day, unable to talk. We never let him forget it.

Reg was very much at home in the bush, and had a great love of and respect for the Australian flora. But of course this did not prevent him from uprooting any plant, which might spoil the perfect fungal photograph he wanted to take. He had this remarkably infectious enthusiastic manner, and a magic eye for spotting fungi in dense scrub. We soon realised what a wonderful photographer of wild flowers and fungi he was, and how long he was prepared to spend to ensure a perfect picture. The classic case was when he captured a perfect picture of the bioluminescent fruiting body of a *Pleurotus* after an all night exposure in his pitch black bathroom. No one was allowed access. Reg has accumulated a magnificent collection of 35mm slides he has taken over the past 40 years, which represents a comprehensive visual record of the local macrofungi in central Victoria.

He was helped by having a camera stand, which he had designed and built himself, allowing him to take close-up photos at ground level with his beloved Pentax camera and macro lens. It was certainly far superior to anything else around, and eventually Laurie and I persuaded Reg to publish a description of it in *The Mycologist*, a popular journal for interested amateur mycologists, put out by the British Mycological Society in London. He agreed reluctantly, but was very protective of his intellectual property rights and careful not to show too much fine detail. He had no

interest in commercialising it, despite many attempts by myself and others to persuade him to make it available to more people. Reg can be very stubborn but is essentially a modest man and is not interested in publicising or boasting about his considerable achievements to anyone until he knows and trusts them. He is quietly confident in his own abilities.

He had strongly held views on what the best photographic technique was for fungi and was highly critical of those who did not follow his rules. He thought most of the photos published in other popular books on fungi were woeful, and was quite happy to pass on his views to the people who took them. I remember, I took Reg to a seminar at Melbourne University run by the Australian Society for Microbiology given by Tom May, the mycologist at the State Herbarium, on "What are fungi?" The talk consisted of a slide show pointing out the wonderful adaptations possessed by fungi for liberating their spores. Reg was very deaf, and so we sat in the front row. He also had the habit of talking quite loudly, and so his whispers were audible to everyone in the lecture theatre. Every slide shown by Tom elicited an opinion from Reg, loud enough for all to hear. Comments like "That's terrible - my slides are far better than that" and "You never use flash if you know what you are doing - it destroys the natural colour balance". The audience was in hysterics, which didn't faze Reg at all. At the end, Tom came over and spoke to Reg about how much he seemed to have enjoyed the slides. Reg then proceeded to give him a lecture on what he was doing wrong and how to improve his technique.

I think he was impressed that I had actually published some of my research in international journals, and so I promised we would publish something together. John Millar had managed to get funding to purchase a scanning electron microscope (SEM), allowing us to take high resolution, 3D pictures of objects including fungi, which are incredibly beautiful. I used to run mini-projects, before they became trendy, where each third year student was given one fungus, with the task of taking high quality SEM photos of its asexual and sexual reproductive structures. Reg was fascinated by the detail we could see, and at least once a week he would come in to sit and watch us work the SEM. One day he brought into the University a fruiting body of a cup fungus growing on his nature strip. We took some beautiful pictures and sent them off with a description of the more interesting structures to the leading journal *Transactions of the British Mycological Society*, which agreed to publish our paper. Reg was very proud of that and he still has a copy of the paper reprint.

Reg truly is a remarkable human being, a perfectionist whether it is growing prize-winning flowers or framing pictures and although we now live in NSW, we try to get back to Bendigo for his birthday. Last year he was 100, and his mind was still as sharp as a tack. He enjoyed the occasion, but typically could not understand what all the fuss was about. He belongs to a lost tribe of local people, almost all of them dead now, who with endless patience and dedication and a great deal of intuitive curiosity, were dedicated to learning as much as they could about the natural world around Bendigo. Their contributions were considerable, and none more so than that of Reg. He is a Bendigo Treasure and is admired and loved by all who know him.

February General Meeting –
Andrew Skeoch: 'Understanding the natural soundscape-hearing our place in nature
by Sabine Wilkens

The term 'soundscape' describes all the sounds around us. Making sense of them and finding connections between them is the discipline of 'Acoustic Ecology', (a term coined by Raymond Murray Schafer). Andrew Skeoch (from 'Listening Earth') divided up the sounds around us into 'geophony' the sounds of the earth and elements, 'Biophony', the sounds of all living things, and, as a separate branch, 'Anthrophony' the

sounds of human origin. To help understand sounds and their relationships, the distribution of sound frequencies over time can be illustrated in a sonogram. A sonogram is like a landscape painting, but instead of showing the distribution of rivers, hills, plants or animals, it shows sounds at different frequencies.

The sound an animal makes is part of its habitat, it is one of the many dimensions that make up its niche - just like the ground it occupies, the size prey it takes or the climate it thrives in. Evolution works to avoid competition, so it divides up the habitat and allow species to co-exist. Audible frequencies represent a finite resource and thus, like other finite resources, are divided up over evolutionary time to accommodate the organisms that live in an area.

One sonogram from an ancient, relatively undisturbed forest in Thailand (see page 6) shows the soundscape neatly divided between insects at the highest frequencies 20000-5000 Hz), birds at mid frequencies and mammals at the lowest frequencies. The sonogram looks highly ordered and harmonious, appearing as if every creature can make itself heard above the apparent chaotic din of the rainforest. When insects first moved on land (about 400 million years ago) they would have had the all frequencies to themselves; later, amphibians, reptiles, birds and mammals joined in with some mammals (bats) actually vocalising at higher frequencies than insects, (inaudible to the human ear). However, most mammals communicate at relatively low frequencies... is that because these were the only ones left 'un-used'? At about 100 Hz, elephants have this (lowest) range all to themselves.

Besides using different frequencies, animals use other sound features related to timing that make their sounds distinct, so while insects often call continuously at certain times of day or night, frog calls have intricate repetitions and can thus can be heard individually, while still making it hard for predators to find individual frogs amongst the overall 'frog noise'. In contrast, songbirds who learn their calls have complicated variations in their patterns, and thus can be distinguished from other birds calling at the same/similar frequency.

Cicadas often occupy a large portion of frequencies in the soundscape with their continuous sounds. The third sonogram on page 6 shows that the calls of three species of cicada virtually fill up all the audible frequencies, bar a small band around 3000 Hz. It turned out that in that bushland, many birds (Spotted Pardalote, Weebill, Treecreeper, White-browed Woodswallow) seemed to have 'taken advantage' of this empty 'space' to communicate with their kin.

An intact/undisturbed forest or bushland will mostly be characterised by a 'differentiated' soundscape, made up by ordered, many-layered, sounds, rich in diversity, where every sound has a meaning. 'Undifferentiated' soundscapes on the other hand are poor in diversity and meaning and can be found in disturbed situations, or else near waterfalls or in storms, where one sounds occupies all frequencies and nothing else can be heard. Human-made sounds can cause disturbances and interfere with natural sounds. Andrew had some sonograms where the calling of animals stopped well before, and a long time after, an aeroplane had flown past or a motorbike had appeared and disappeared. Some birds of prey have actually taken advantage of such silencing of frogs, and can more easily spot (and catch) individual frogs when they start calling again.

Towards the end of the talk, Andrew showed some sonograms of our music, for example Bach's Prelude in C-minor was the ultimate in order; the sonogram looked like a woven carpet, with almost every frequency used and regular beats in time. Heavy metal music on the other hand looked quite different!

I was fascinated and delighted by this talk and was very glad that for the first speaker of the year we had a good crowd, who will no doubt be now start thinking about ecology and habitats in terms of the soundscape. Many thanks to Andrew, for sharing his knowledge of this little-known dimension of our world.

Diary

All Club meetings are held at the Golden Square Senior Citizens Building, Old High St Golden Square, unless otherwise indicated.

Wednesday March 12, 2014 7.30pm
This month, our own (BFNC) John Lindner will present some of the experiences of his recent travels with 'Walking in the Flinders Ranges, and understanding its natural history'

Family Nature Club
The Nature Club activities for 2014 will resume this month.
The March 16 meeting will involve a 'Spiders and Bug Blitz' (with Nicole Howie, Felicity Nicholls and Jenny Shield). This topic had been intended for the February meeting but was deferred till this month.

Registration:
Bendigonatureclub@gmail.com or 5443-1326
http://bendigofamilynatureclub.blogspot.com/

Bendigo Native Plant Group meeting.
All interested people are welcome to come along. Meeting starts at 7:30pm on the third Tuesday of the month, Golden Square Senior Citizens Hall.
Next meeting: 18th of March.

SEANA Autumn Camp 2nd-5th May 2014
• Hosted by Upper Goulburn Field Naturalists Club at Marysville
• Based at 'Camp Marysville' outdoor education resort, including accommodation, meals, conference facilities etc.
• Accommodation is two bedroom cabins.
• Registration fee ($38pp) is payable by Wednesday 19th February 2014 (negotiable?)
• Accommodation and meals must be paid for by Friday 4th April 2014. Full cost of Accommodation and meals if staying for full weekend (3 nights) and all meals is $195pp (plus registration fee).
• The camp will include an interesting exploration of various aspects of the recovery of the area since the devastating 2009 Bushfires and other natural history of the area
Contact either Matt Comer or The upper Goulburn fnc direct for further information.
Contact; Graham Page, phone 03 5774 7555 or e-mail: grahamvpage@gmail.com

Wildlife Rescue & Information Network Inc.
W.R.I.N. is an organisation dedicated to the care of orphaned, sick or injured native animals. It is fully endorsed by the Dept of Sustainability and Environment.
Please call our Emergency Number for Help for Fauna in Need. Phone: 0419 356433.

Tuesday April 8 – Lockwood South 7.30pm Workshop - The Secret Lives of Eucalypts - The Importance of Beneficial Fungi See description of content of workshop in last month's *Whirrakee* (back page). Participants are encouraged to bring along fungus specimens. No charge. Supper provided. Bookings: Judy: jcroc22@gmail.com
Have a look at Alison's website http://www.alisonpouliot.com/projects_fungi_ecology.php

Vocal Nosh in Newstead
This Sunday 2nd March will see us gather again at Newstead Community Centre for a good sing and good food in convivial company that we call Vocal Nosh. Our leader will be the fabulous Fay White of Maryborough, and the theme this month is "Sing, Don't Cry" - songs to counteract political disappointment. Let's try to turn up at 5.45 pm so we can get started right on time at 6pm and get lots of singing in. Adult entry still $15, or $12 concession, or $5 for children (includes a healthy meal). Bookings help us to decide how much soup to make, so please contact Fay by phone 5461 5471 or email faywhite.music@westnet.com.au
There is a presentation by Prof Ian Lunt, hosted by Connecting Country on at Newstead Community Centre immediately before Vocal Nosh this Sunday, so you might like to attend that as well. It starts at 4pm.